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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,146

07/13/2005

Guy Baret

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EXAMINER

TAI, XIUYU

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

10/15/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/542,146	<b>Applicant(s)</b> BARET ET AL.	
	<b>Examiner</b> Xiuyu Tai	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-19 and 22-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 14-19 and 22-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 7/11/2008 have been fully considered but they are not persuasive.
2. In response to applicant's argument that the reference of Modrey is nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references of Wambach and Modrey are analogous art because they are from similar problem solving area, namely electrical connectors.
3. Applicant's arguments with respect to claims 14-19, and 22-27 have been considered but are moot in view of the new ground(s) of rejection necessitated by applicant's amendment..
4. The amendment filed 7/11/2008 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "a second connector" and "at least one first connector" cited in claim1 and "an embossment" as cited in claims 15 and 16 are not supported by the specification as filed.

Applicant is required to cancel the new matter in the reply to this Office Action.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. "a second connector" and "at least one first connector" cited in claim 1 are not supported by the specification as filed. "a second connector" and "at least one first connector" are interpreted as each end of an electrical connector. Claims 15-19, and 22-27 are rejected because of their dependency and failure to remove the ambiguity of parent claim.

7. Claims 15 and 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. "an embossment" as cited in claims 15 and 16 is not supported by the specification as filed. For the purpose of examination, "an embossment" is interpreted as any object that has three-dimensional structure.

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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9. Claims 17, 19, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claims 17, 19, and 23 recites the limitation "the first connector". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claims 14-16, 24, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wambach (U.S. 5,961,740) in view of Tourneux (U.S. 4,220,462) and Modrey (U.S. 3,688,248) and in evidence of Wambach (U.S. 6,075,201).

15. Regarding claim 14, Wambach discloses a plate -shaped solar module. The module comprises (1) a plurality of photovoltaic cells (col. 3, line 28) arranged between two glass panes 20 & 24 (Figure 2; col. 3, line 48-49) in the pane intermediate space 22 which are sealed by sealing mass 18 and sealing tape 26 (Figure 2; col. 3, line 51-52); and (2) an electrical connection system having a lug 2 and connecting lines 4 which are electrically connected with solar cell (Figure 2; col. 3, line 25-28). The one end of the electrical connection system is a cylindrical hollow bush 6 connected with a connector 10 that is located outside of the module (Figure 2; col. 3, line 30-35) and the other end of the electrical connection is a lug 2 with free end to connect solar cells (Figure 2; col. 3, line 25-28). The electrical connection system comprises the hollow insulating bush 6 and the lug 2 that is positioned by sealing tape 26 and fixed by the cast resin 28 (i.e. glued by resin 28 in the space 22, Figure 2; col. 3, 52-54). A connecting conductor is a well know element for connecting solar cell module to an external connector as is evident by the teaching of Wambach in another patent (U.S. 6,075,201, reference 26 in Figure 2; col.4, line 18-20).

Wambach fails to teach an under-pressure being maintained within the space 22. However, Tourneux discloses a photovoltaic generator panel having a plurality of solar

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cells. Tourneux teaches that a negative pressure being introduced and maintained would have advantages for the two substrates to be combined to contact with each other and to hold together as being sealed (col. 3, line 15-20). Therefore, it would be obvious for one having ordinary skill in the art to maintain a negative pressure in the space 22 of Wambach as suggested by Tourneux in order to hold the two substrates together as being sealed.

Wambach/Tourneux fails to teach the contact between the free end of the electrical connection system and the connecting connectors of solar cells achieved by means of pressure deformation. However, Modrey discloses a roller metal pin (reference 1 in Figure 1; col. 4, line 41-43) using as an electric connector. Modrey further teaches that the electric contact obtained with a rolled pin exerts constant and substantially uniform elastic pressure, resulting in excellent contact quality (col. 2, line 10-15). Therefore, it would be obvious for one having ordinary skill in the art to utilize an electric connector as suggested by Modrey in order to achieve better contact between the connector and the connecting conductor in the module of Wambach/Tourneux. Moreover, the negative pressure in the space 22 of Wambach/Tourneur would have favored the pressure deformation contact between electric connectors.

16. Regarding claims 15 and 16, both the connecting conductor and the lug 2 of the electrical connection system have three-dimensional structure, reads on the instant claim.

17. Regarding claim 24, Wambach teaches that the free end of connector 2 enters the insulating bushing 6 through a centered jack 8 via electrical line 12 and a I-shaped

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connection is formed between the lug 2 and electrical line 12 (Figure 1; col. 3, line 32-38), reads on the instant claim.

18. Regarding claim 26, Modrey teaches a flexible configuration for excellent electric contact (col. 4, line 50-59) and the connection is accomplished through a mounting hole 20 (col. 5, line 55-59). Therefore, it would be obvious for one having ordinary skill in the art to facilitate easy electric connections.

19. Regarding claim 27, Modrey teaches that the electric contact obtained with a rolled pin exerts constant and substantially uniform elastic pressure (col. 2, line 10-15), Reads on the instant claim.

20. Claim 17, 18, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wambach (U.S. 5,961,740) and Tourneux (U.S. 4,220,462) and Modrey (U.S. 3,688,248) as applied to claim 14 above, and further in view of Shima et al (U.S. 4,880,401).

21. Regarding claims 17 and 18, Wambach/Tourneux/Modrey fail to teach what type of material the connector or the connecting conductor is made of. However, Shima et al disclose an electric female connector piece that is made of stainless steel (col. 3, line 32-33). Therefore, it would be obvious for one having ordinary skill in the art to utilize a stainless steel connector or connecting conductor as taught by Shima in the module of Wambach/Tourneux/Modrey in order to achieve better electricity conduction and to prevent rust forming on the surface of the connector.

22. Regarding claim 22, a wire connector is well known in the art. As is evident, Wambach indicates a connection line 4 (Figure 2; col. 3, line 27) and Modrey teaches a



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wire connector 9 (Figure 1; col. 5, line 6-7). Wambach/Tourneux/Modrey fails to teach a polymer material as being the insulating material. However, Shima et al disclose an electric female connector piece comprising a connector casing 11 made of an electrically insulating synthetic resin material (col. 3, line 15-17), Resin is known as a polymer material. Therefore, it would be obvious for one having ordinary skill in the art to utilize resin as an insulating material in the system of Wambach/Tourneux/Modrey in order to achieve better insulation and tighter sealing for the system.

23. Regarding claim 23, Wambach/Tourneux/Modrey fail to teach a connector comprising a male and female parts of flat connector. However, Shima et al disclose an electric female connector piece comprising a pin-shaped electric connector piece M of a male connector (Figure 2; col. 3, line 18-19) and an elongated contact piece 15 of female connector (Figure 2; col. 3, line 29). The male connector M is inserted into the female connector 15 through an opening 11a on the insulating casing 11 (col. 3, line 15-24). Therefore, it would be obvious for one having ordinary skill in the art to utilize the connector as taught by Shima in the module of Wambach/Tourneux/Modrey in order to achieve an easy and quick connection.

24. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wambach (U.S. 5,961,740) and Tourneux (U.S. 4,220,462) and Modrey (U.S. 3,688,248) as applied to claim 14 above, and further in view of Lee et al (U.S. 6,111,772).

25. Regarding claim 19, Wambach/Tourneux/Modrey fail to teach a metal blade as the connector. However, Lee et al disclose a safety enhanced electric connector. The

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connector comprises metal blades 1522 and 1532 (Figure 7; col. 4, line 27-28). The reference further teaches to control current path by inserting or removing metal blades (col. 2, line 59-67). Therefore, it would be obvious for one having ordinary skill in the art to include a metal blade as suggested by Lee in the connector of Wambach/Tourneux/Modrey in order to easily control the interconnection between the connector and the connecting conductor. With respect to the required thickness and width, one having ordinary skill in the art would have found obvious to optimize the dimension of the metal blade for suitable size and shape in order to fit in the solar cell module.

26. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wambach (U.S. 5,961,740) and Tourneux (U.S. 4,220,462) and Modrey (U.S. 3,688,248) as applied to claim 14 above, and further in view of Brandt et al (U.S. 3,721,948).

27. Regarding claim 25, Wambach/Tourneux/Modrey fails to teach a block insulating material comprising two glass substrates surrounding several conductors separated by glass blades. However, Brandt et al disclose a terminal assembly. The assembly comprises a plurality of conductor pins or leads 4, 5, and 6 (Figure 1; col. 2, line 33-34). Each of terminal 4, 5, and 6 is spaced apart by electrically insulating sleeves 16 (Figure 2 & 3; col. 3, line 26-29) and terminals (4, 5, and 6) and sleeves 16 are enclosed in a tubular member 18 (Figure 2 & 3; col. 3, line 40-43) that is made of resin (col. 4, line 1-3). As indicated in the reference, the terminals are secured to the body by means of glass beads 14 (col. 2, line 47-50). As is evident, glass is well known in the art as an

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insulating material (col. 2, line 47-50). Although the terminal assembly of Brandt is enclosed in a tubular member 18 and resin is used as an insulating material for sleeves 16 and tubular member 18, one having ordinary skill in the art would have found obvious to change the tubular-shaped enclosure into a box-shaped block and use a glass substrate instead of resin as insulating material in order to accommodate the intended use of the system of Wambach/Tourneux/Modrey.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuyu Tai whose telephone number is 571-270-1855. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/X. T./  
Examiner, Art Unit 1795

10/9/2008

/Alexa D. Neckel/  
Supervisory Patent Examiner, Art Unit 1795